



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,158	12/22/2003	Einat Amitay	IL920030045US1	7754

7590 04/12/2011  
Stephen C. Kaufman  
Intellectual Property Law Dept.  
IBM Corporation  
P.O. Box 218  
Yorktown Heights, NY 10598

EXAMINER
----------

PHAM, MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

2167

MAIL DATE	DELIVERY MODE
-----------	---------------

04/12/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/743,158	<b>Applicant(s)</b> AMITAY, EINAT	
	<b>Examiner</b> MICHAEL PHAM	<b>Art Unit</b> 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 66-70 and 72-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 66-70 and 72-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### Claim Status

1. Claims 66-70 and 72-83 have been examined.

### Specification

2. The specification is objected *because the term* “non-transitory computer-readable storage medium” in claims 76-83 is not defined in the specification.

### Claim Rejections - 35 USC § 101

3. Regarding claim 76-83, claim 76 recites a “non-transitory computer-readable storage medium”. In the absence of any other modifying disclosure of this limitation in the specification, the 'non-transitory computer-readable storage media' is limited to statutory embodiments only such that it satisfies the terms of 35 U.S.C. 101.

### Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 66-70, 72-73, and 76-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6571239 by Cole et. al. (hereafter Cole) further in view of U.S. Patent Application Publication 20040078356 by Mazner et. al. (hereafter Mazner) and U.S. Patent 7171349 by Wakefield et. al. (hereafter Wakefield).**

.

### Claim 66 :

Art Unit: 2167

Cole discloses:

“providing a document index for a collection of documents to be searched, the document index comprising terms that occur in the collection;”[ See figure 1 and 2. Accordingly, providing a document index (figure 1 element 120, keyword index)for a collection of documents (figure 1 element 115, repository) to be searched (col. 3 lines 16-17, search engine matches the query against the keyword index), the document index (figure 1 element 120, keyword index) comprising terms (figure 1 element 120, keywords) that occur in the collection (col. 3 line 21, data objects associated with those keywords)]

“accepting user queries from a plurality of users in a search engine;”[See figure 1. Accordingly, accepting user queries from a plurality of users in a search engine (figure 1 elements 100-110 and col. 3 lines 2-3, a user interface 100 for users to input queries.)]

“responsively to the queries searching the document index with the search engine to identify documents of the collection that satisfy the queries, respectively; and”[ Accordingly, responsively to the queries (col. 3 lines 2-3, query) searching the document index (figure 1 element 120, keyword index) with the search engine (figure 1 element 110, search engine) to identify documents of the collection that satisfy the queries, respectively(col. 3 line 21, data objects associated with those keywords)]

“adding the queries to the respectively identified documents as metadata.”[See col. 4 line 3 and col. 4 lines 43-45. Accordingly, “adding” (linking) “the respective queries” (col. 4 lines 43, keywords) “to the identified documents” (col. 4 line 3, linking each keyword with the object's id returned by the search engine ) “as metadata” (col. 4 lines 44-45, these associations)]

Cole does not explicitly disclose “themselves”.

On the other hand, Mazner discloses “themselves” [see paragraph 0018, to aid in the location and retrieval of documents, it is useful to both add information (e.g. search terms) to the document to enhance searching and to categorize the document into a plurality of categories. Accordingly teaching adding queries (search terms) to the respectively identified documents themselves (add information to the document) as metadata (added information)]

Both Cole and Mazner are directed towards search and retrieval of documents. Cole disclosed adding search queries as metadata in order to provide for better search. Mazner further and more explicitly disclosed that the search queries are actually added to the documents in order to enhance search. Both are directed to the same field of endeavor as applicant's invention as they both are directed to improving search methods. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Mazner's disclosure above to the disclosure of Cole for the purpose of enhancing searching and to categorize the document into a plurality of categories. Doing so clearly enhances the search.

Cole and Mazner do not explicitly disclose “ranking the identified documents according to respective frequencies of occurrence of terms of the added queries therein”

On the other hand, Wakefield discloses “ranking the identified documents according to respective frequencies of occurrence of terms of the added queries therein”[col. 3 lines 57-64.

Art Unit: 2167

When an IR user enters a query, the system looks up each query word in the table and records which documents contained the query word. Normally each document is assigned a statistical measure of relevance, based on the frequency of the query word occurrence, which assists the system in ranking the returned documents. For example, if Document X contained a particular search term 10 times, and Document Y contained the same term 100 times, Document Y would be considered more relevant to the search query than document X. Accordingly, ranking (ranking the returned documents) the identified documents (documents) according to respective frequencies of occurrence of terms of the added queries therein (based on the frequency of the query word occurrence)]

Cole, Mazner and Wakefield are all directed to search and retrieval of documents. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Wakefield's disclosure above to the combination of Cole and Mazner for the purpose of ranking the documents more relevantly with respect to the query terms. In doing so provides the user with the most relevant document first rather than having to sift through a large document set.

**Claim 67 :**

The combination of Cole, Mazner, and Wakefield discloses in Cole "the step of enhancing the document index to include the added queries in the document index." [Accordingly, the step of enhancing the document index (keyword index) to include the added queries in the document index (col. 4 lines 44-45, associations are then added to the master index or the auxiliary index) ]

Art Unit: 2167

**Claim 68 :**

Cole discloses " enhancing the document index to include the added queries in the document index " and hence discloses the document index comprising the added queries.

Cole and Mazner do not explicitly disclose the document index "including therein the respective frequencies of occurrence of terms of the queries"

On the other hand, Wakefield discloses "enhancing the document index further comprises including therein the respective frequencies of occurrence of terms of the queries"[See figure 1 and col. 3 lines 57-64. When an IR user enters a query, the system looks up each query word in the table and records which documents contained the query word. Normally each document is assigned a statistical measure of relevance, based on the frequency of the query word occurrence, which assists the system in ranking the returned documents. Accordingly, enhancing the document index (figure 1) further comprises including therein the respective frequencies (figure 1) of occurrence of terms of the queries (col. 3 lines 57-64, frequency of the query word occurrence).]

Cole, Maznier, and Wakefield are all directed towards retrieval systems and improvements to them thereof. Cole disclosed adding queried terms to an index as can be seen above in col. 4 lines 44-45. However, Cole did not make much mention in regards to providing the frequency in the index regarding the queries. Wakefield disclosed the system wherein the terms of the query are counted. The most relevant document being the document containing the most frequent query terms to be used.

**Claim 69 :**

Art Unit: 2167

The combination of Cole, Mazner, and Wakefield discloses in Cole “further comprising accepting new user queries in the search engine and performing the step of searching a second time responsively to the new user queries and using the enhanced document index as the document index.”[ further comprising accepting new user queries in the search engine (figure 2 element 201) and performing the step of searching a second time (figure 2) responsively to the new user queries (figure 2 element 201) and using the enhanced document index as the document index (figure 2 element 220, index keywords matched)]

**Claim 70 :**

The combination of Cole, Mazner, and Wakefield discloses in Cole “further comprising the steps of:

identifying old added queries whose time stamps are older than a predefined value; and”[See figure 4 and col. 4 lines 22-39. Accordingly, identifying old added queries (old keywords) whose time stamps (date) are older than a predefined value (old and frequency)]

“removing the old added queries from the document index.”[figure 4, delete from index and See figure 4 and col. 4 lines 22-39. Accordingly, removing the old added queries (old keywords) from the document index (figure 4, delete from index)]

**Claim 72 :**



The combination of Cole, Mazner, and Wakefield discloses in Cole “wherein the queries comprise phrases” [col. 3 lines 60-61, single words or multi-word phrases].

**Claim 73 :**

The combination of Cole, Mazner, and Wakefield discloses Cole “wherein the queries comprise natural language terminology.”[col. 3 line 6, natural language]

**Claims 76-82**

Claims 76-82 contain similar claim language as that of claims 66-70 and 72-73 respectively and are therefore rejected under similar rationale.

**Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 74 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6571239 by Cole et. al. (hereafter Cole), U.S. Patent Application Publication 20040078356 by Mazner et. al. (hereafter Mazner), and U.S. Patent 7171349 by Wakefield**

**et. al. (hereafter Wakefield) further in view of U.S. Patent Application Publication  
20040261021 by Mittal et. al. (hereafter Mittal).**

**Claim 74 :**

Cole, Mazner, and Wakefield do not explicitly “wherein a language of the queries differs from a language of the identified documents.”

Mittle discloses in the abstract queries can be expressed using character sets and/or languages that are different from the character set and/or language of at least some of the data that is to be searched. Accordingly, wherein a language of the queries (queries can be expressed using character sets and/or languages) differs (different) from a language of the identified documents (from the character set and/or language of at least some of the data that is to be searched).

Cole, Mazner, Wakefield and Mittal are all directed towards document search and therefore all are within the same field of endeavor as applicant’s invention. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Mittal’s disclosure above to the combination of Cole, Mazner, and Wakefield for the purpose of allowing various devices to utilize the benefits of the search indices. Devices such as mobile phones would be too tedious for query entry, and further typing in different languages using ASCII keyboard also would be tedious and slow see 0006 and 0018 of Mittal.

Accordingly, by allowing different languages to be entered in as queries, it allows for an improvement in the over all search process.

Claim 83 contains similar limitations as claim 74 and is therefore rejected under similar rationale.

### **Response to Arguments**

8. Applicant's arguments with respect to claims 66-70 and 72-83 have been considered but are moot in view of the new ground(s) of rejection.

A. Applicant's assert that the claim is not disclosed because "adding queries of the plurality of users to the documents" is not disclosed

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). *Cole* was used to disclose accepting user queries from a plurality of users as seen above, since another user can simply just walk up and enter another query. *Cole* does not explicitly disclose adding queries to the documents themselves however does disclose linking the queries to the documents. *Mazner* however disclosed adding the search terms (i.e. queries) to the documents. Both *Cole* and *Mazner* are directed towards search and retrieval of documents. *Cole* disclosed adding search queries as metadata in order to provide for better search. *Mazner* further and more explicitly disclosed that the search queries are actually added to the documents in order to enhance search. Both are directed to the same field of endeavor as applicant's invention as they both are directed to improving search methods. It would have been obvious to a person of an ordinary skill in the

Art Unit: 2167

art at the time the invention was made to have applied Mazner's disclosure above to the disclosure of Cole for the purpose of enhancing searching and to categorize the document into a plurality of categories. Doing so clearly enhances the search.

Furthermore, applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., adding queries of the plurality of users to the documents) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B. Applicant's assert that the new limitation of ranking the documents is not disclosed.

Applicant's arguments with respect to claim 66 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

9. The prior art made of record listed on pto-892 and not relied, if any, upon is considered pertinent to applicant's disclosure.

Art Unit: 2167

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

#### **Contact Information**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MICHAEL PHAM** whose telephone number is (571)272-3924.

The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. P./  
Examiner, Art Unit 2167

/Cam Y Truong/  
Primary Examiner, Art Unit 2169